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AP

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

JOS HUYBRECHTS ET AL.

APPLICATION NO:

10/759,945

FILED:

JANUARY 16, 2004

FOR:

**TWO-COMPONENT COATING
COMPOSITIONS**

GROUP ART UNIT:

1797

EXAMINER:

IVES J. WU

ATTORNEY DOCKET NO.:

FA1105 US NA

APPEAL BRIEF

Mail Stop Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Pursuant to 37 C.F.R. § 41.37, the following is an Appeal Brief in support of the Appeal filed March 3, 2008, appealing the Final Office Action dated November 28, 2007. Submitted herewith is the filing fee for this Appeal Brief in accordance with 37 C.F.R. § 41.20(b)(2). Please charge said fee to Deposit Account No. 04-1298 (E. I. du Pont de Nemours and Co.).

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I. REAL PARTY IN INTEREST

The real party in interest is the assignee, E. I. du Pont de Nemours & Co., a Delaware corporation (*hereinafter* "DuPont"), owner of the Application.

II. RELATED APPEALS AND INTERFERENCES

None.

III. STATUS OF CLAIMS

Claims 1-13 stand rejected and are the subject of this Appeal.

IV. STATUS OF AMENDMENTS

In response to the Final Office Action, Claims 6, 8, 10, and 11 were amended to correct typographical errors. In the Advisory Action dated February 20, 2008, Examiner indicated that these amendments will be entered for purposes of appeal.

V. SUMMARY OF CLAIMED SUBJECT MATTER

This application contains four independent claims, Claims 1, 9, 10, and 11. Claim 1 relates to a coating composition comprising A) at least one hydroxy-functional (meth)acrylic copolymer having an OH value from 160 to 200 mg KOH/g and a weight average molecular weight Mw from 2,500 to 30,000 (see page 3, lines 9-13) and B) at least one polyisocyanate cross-linking agent (see page 3, line 14 and page 8, line 28-page 9, line 29); wherein the hydroxy-functional (meth)acrylic copolymer A) is obtained by A1) free-radically copolymerizing a monomer mixture (see page 3, lines 15-16 and page 7, line 24-page 8, line 18) comprising a) at least one hydroxy functional free-radically copolymerizable olefinically unsaturated monomer (see page 3, lines 17-18 and page 4, line 27-page 5, line 19), b) at least one cycloaliphatic ester of a free-radically copolymerizable olefinically unsaturated carboxylic acid (see page 3, lines 19-20 and page 5, lines 20-32), and c) at least one additional free-radically copolymerizable olefinically unsaturated monomer which is different from component a) and b) (see page 3, lines 21-22 and page 6, line 1-page 7, line 10); and A11) reacting at least part of the hydroxyl groups of the hydroxy-functional (meth)acrylic copolymer obtained in step A1) with d) at least one lactone

compound (see page 3, lines 24-26; page 7, lines 11-16; and page 7 lines 20-23); wherein the hydroxy-functional (meth)acrylic copolymer obtained in step A1) has a glass transition temperature T_g of at least 50°C (see page 3, lines 27-28) and wherein said copolymer is free of epoxy-functional free-radically copolymerizable olefinically unsaturated monomers (see page 3, lines 28-30; page 6, lines 1-5; and page 7, lines 17-19).

Claim 9 relates to a process which comprises applying a multi-layer coating on a substrate using a coating composition according to claim 1 (page 11, line 27- page 12, line 4) and curing said coating (page 12, lines 13-14).

Claim 10 relates to a process for multi-layer coating of substrates which comprises applying a top coat layer to a substrate pre-coated with one or more coating layers (see page 11, lines 27-30), wherein the top coat layer comprises a color-and/or special effect-imparting base coat coating compound and a clear coat coating compound, and wherein the clear coating layer comprises the coating composition according to claim 1 (see page 12, lines 7-13).

Claim 11 relates to a process for multi-layer coating of substrates which comprises applying a top coat layer to a substrate pre-coated with one or more coating layers (see page 11, lines 27-30), wherein the top coat layer comprises a pigmented one-layer top coat coating compound, and wherein the pigmented one-layer top coat coating layer comprises the coating composition according to claim 1 (see page 12, lines 5-7).

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Whether Claims 1-5 and 7-13 are obvious under 35 U.S.C. § 103(a) in view of U.S. Patent No. 3,892,714 to Sampson et al. (hereinafter "Sampson").

Whether Claim 6 is obvious under 35 U.S.C. § 103(a) in view of Sampson and further in view of U.S. Patent No. 6,130,286 to Thomas et al. (hereinafter "Thomas").

VII. ARGUMENT

A. The Final Office Action

In the Final Office Action dated November 28, 2007, Examiner, maintaining the rejection put forth in the June 5, 2007, Non-Final Office Action, rejected Claims

1-5 and 7-13 as obvious in view of Sampson. In making this rejection, Examiner asserts that Sampson specifically discloses all limitations of independent Claim 1 with the exception of the limitation requiring at least one cycloaliphatic ester of a free-radically copolymerizable olefinically unsaturated carboxylic acid to be included (i.e., component b) of step A1)) and the limitation requiring the hydroxy-functional (meth)acrylic copolymer obtained in step A1) to have a glass transition temperature (T_g) of at least 50°C (June 5, 2007, Non-Final Office Action at pages 3-4). However, Examiner found that, while Sampson fails to teach component b), it would have been obvious to include such a component (*Id.* at page 3). Moreover, Examiner asserts that the claimed T_g of at least 50°C would be inherently possessed by the Sampson compositions given the similar disclosures of Sampson and the present application (*Id.* at pages 3-4).

With regard to the claims dependent upon Claim 1, Examiner asserts that the additional limitations of Claims 5, 7, and 8 are taught by Sampson (June 5, 2007, Non-Final Office Action at page 4). Examiner further asserts that, while the specific percentage amounts claimed in dependent Claim 2 are not taught by Sampson, it would have been obvious to one skilled in the art to utilize such amounts (*Id.*). Additionally, Examiner asserts that, while the OH value, molecular weight range, and glass transition temperatures of dependent Claims 3 and 4 are not specifically taught by Sampson, that these are inherent properties of the Sampson compounds given the similar disclosures of Sampson and the present application (*Id.*).

As for the additional independent claims, Examiner asserts that the Claim 9 process of applying and curing a multi-layer coating on a substrate using a coating composition according to Claim 1 is taught by Sampson (June 5, 2007, Non-Final Office Action at pages 4-5). Examiner further asserts that Sampson teaches all limitations of independent Claims 10 and 11 (and the claims that depend therefrom, i.e., Claims 12 and 13) with the exception of the application of the Claim 1 coating composition as a clear coat or top coat, but that these additional limitations would have been obvious to one skilled in the art (*Id.* at page 5).

In addition, the Final Office Action dated November 28, 2007, maintains the rejection put forth in the June 5, 2007, Non-Final Office Action rejecting dependent Claim 6 as obvious in view of Sampson and further in view of Thomas. In making

this rejection, Examiner asserts that Sampson discloses or otherwise makes obvious all limitations of independent Claim 1, as discussed above, but fails to teach the additional limitation of Claim 6 requiring the cycloaliphatic ester of component b) to be selected from the given group of compounds (*Id.*). However, Examiner asserts that this additional limitation is taught by Thomas and that it would have been obvious to one skilled in the art to employ Thomas's cycloaliphatic esters in the Sampson invention to arrive at the invention of Claim 6 (*Id.*).

B. Appellants' Traversal of the Final Office Action and Arguments in Support Thereof

1. Claims 1-5 and 7-13 are Nonobvious in View of Sampson

a. Claims 1-5 and 7-13

As discussed above, in rejecting Claims 1-5 and 7-13 under 35 U.S.C. § 103(a) as being obvious in view of Sampson, Examiner asserts that Sampson discloses, either expressly or inherently, all limitations of independent Claim 1 with the exception of the limitation requiring at least one cycloaliphatic ester of a free-radically copolymerizable olefinically unsaturated carboxylic acid to be included (i.e., component b) of step A1)) (June 5, 2007, Non-Final Office Action at pages 3-4). However, Examiner asserts that, while Sampson fails to teach component b), it would have been obvious to include such a component (*Id.*). Appellants respectfully disagree.

"To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art" (MPEP § 2143.03, citing *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974) (emphasis added)). Here, Sampson fails to do so, and thus *prima facie* obviousness has not been established. First, independent Claim 1 includes a limitation requiring the hydroxy-functional (meth)acrylic copolymer A) to be obtained by copolymerizing a monomer mixture that includes at least one cycloaliphatic ester of a free-radically copolymerizable olefinically unsaturated carboxylic acid (component b)). Sampson nowhere discloses such a component. In fact, Sampson does not even make the slightest suggestion that such a component would be useful in the disclosed invention. Instead, Sampson merely discloses that the polymer composition comprises "two or

more ethylenically unsaturated monomers at least one of which contains an [sic] hydroxyl group” (Sampson at 1:13-15). Moreover, Sampson gives as examples of such second ethylenically unsaturated monomers “styrene, vinyl toluene, methyl methacrylate, vinyl acetate and butyl methacrylate” (Sampson at 2:37-39), none of which are a cycloaliphatic ester of an olefinically unsaturated carboxylic acid. Given such a disclosure, Sampson fails to teach or even suggest this limitation of independent Claim 1. Since, as stated above, “[t]o establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art,” Sampson therefore fails to make obvious this claim.

In addition, given the Sampson disclosure, use of a cycloaliphatic ester of an olefinically unsaturated carboxylic acid would not even have been obvious to try, again demonstrating the nonobviousness of the present invention. In *KSR Int'l v. Teleflex Inc.*, 127 S.Ct. 1727, 1742, 82 USPQ2d 1385, 1397 (2007), the Supreme Court held that a claim can be found obvious if it can be shown that the claimed combination of elements was obvious to try, which can occur “[w]hen there is a design need or market pressure to solve a problem and *there are a finite number of identified, predictable solutions*” (emphasis added). Here, while a market pressure to develop (meth)acrylic copolymer coatings that possessed both excellent drying properties and hardness development did exist, there was not a finite number of identified, predictable solutions to this problem. Instead, there was a practically infinite number of possible solutions, since there are a practically infinite number of compounds which can be combined to arrive at (meth)acrylic copolymer coatings. Moreover, the disclosure of Sampson did very little to narrow this infinite field of possibilities, stating only that “two or more ethylenically unsaturated monomers” are to be combined, “at least one of which contains an [sic] hydroxyl group” (Sampson at 1:13-15). This leaves open for the additional monomers the entire field of non-hydroxyl containing ethylenically unsaturated monomers, which is an extremely large field. And, Sampson also does nothing to add predictability to the wide class of possible choices. Given such a disclosure, it would not have even been obvious to try the solution arrived at in the present invention, namely the use of a cycloaliphatic ester of a free-radically copolymerizable olefinically unsaturated carboxylic acid,

again demonstrating that Claim 1 of the present application should not be deemed obvious in view of Sampson.

Moreover, Sampson's disclosure of a broad genus of possible compounds fails to make obvious the specific subgenus claimed in the present application. "The fact that a claimed species or subgenus is encompassed by a prior art genus is not sufficient by itself to establish a *prima facie* case of obviousness," (MPEP § 2144.08.II., citing *In re Baird*, 16 F.3d 380, 382, 29 USPQ2d 1550, 1552 (Fed. Cir. 1994)). Applying this rule directly to chemical compounds, the court has held that "[t]he fact that a claimed compound may be encompassed by a disclosed generic formula does not by itself render that compound obvious" (*In re Baird*, 16 F.3d 380, 382, 29 USPQ2d 1550, 1552 (Fed. Cir. 1994)). Instead the examiner must perform a complete and proper obviousness analysis, which "requires consideration of 'whether the prior art would also have revealed that in making or carrying out [the claimed invention], those of ordinary skill would have a reasonable expectation of success'" (*In re Vaeck*, 947 F.2d 488, 493, 20 USPQ2d 1438, 1442 (Fed. Cir. 1991)). Said another way, in a genus/subgenus situation "a *prima facie* case of unpatentability requires that the teachings of the prior art suggest *the claimed compounds* to a person of ordinary skill in the art" (*In re Jones*, 958 F.2d 347, 351, 21 USPQ2d 1941, 1944 (Fed. Cir. 1992)). In performing such an obviousness analysis, the examiner must also "consider any teaching or suggestion in the reference of a preferred species or subgenus that is significantly different in structure from the claimed species or subgenus . . . [which] may weigh against selecting the claimed species or subgenus and thus against a determination of obviousness" (MPEP § 2144.08.II.A.4.(c), citing *In re Baird*, 16 F.3d 380, 382-83, 29 USPQ2d 1550, 1552 (Fed. Cir. 1994)). Such adverse teachings can arise not only from specific statements of preferred species in the specification, but also can arise from the choice of compounds used in the Examples of the prior art patent (see *In re Jones*, 958 F.2d 347, 350, 21 USPQ2d 1941, 1943 (Fed. Cir. 1992)). It must also be noted that it is the examiner "who bears the initial burden of factually supporting any *prima facie* conclusion of obviousness," and, as such, the examiner cannot simply make a conclusory statement of obviousness, but rather "must provide evidence which as a whole shows that the legal determination sought to be proved (i.e., the

reference teachings establish a *prima facie* case of obviousness) is more probable than not" (MPEP § 2142).

Under this legal framework, Examiner has failed to make out a *prima facie* case of obviousness of the present invention in view of Sampson. As discussed above, Sampson merely discloses that the polymer composition comprises "two or more ethylenically unsaturated monomers at least one of which contains an [sic] hydroxyl group" (Sampson at 1:13-15). Such a disclosure clearly describes a large genus of possible monomers, in which Examiner contends the subgenus defined by component b) of the present application falls. However, as stated above, this fact alone is insufficient to arrive at a finding of obviousness of the claimed subgenus. Instead, Examiner must determine and demonstrate why "the prior art would also have revealed that in making or carrying out [the claimed invention], those of ordinary skill would have a reasonable expectation of success" (*In re Vaeck*, 947 F.2d 488, 493, 20 USPQ2d 1438, 1442 (Fed. Cir. 1991)). Examiner has failed to do this, and therefore has failed to meet the burden of setting forth a *prima facie* case of obviousness. Moreover, as discussed above, Sampson is completely silent as to compounds meeting the limitations of component b) of Claim 1. As such, Sampson would not "have revealed that in making or carrying out [the claimed invention], those of ordinary skill would have a reasonable expectation of success," thereby making any determination of obviousness over this reference improper.

Further, as stated above, Examiner must "consider any teaching or suggestion in the reference of a preferred species or subgenus that is significantly different in structure from the claimed species or subgenus . . . [which] may weigh against selecting the claimed species or subgenus and thus against a determination of obviousness" (MPEP § 2144.08.II.A.4.(c), citing *In re Baird*, 16 F.3d 380, 382-83, 29 USPQ2d 1550, 1552 (Fed. Cir. 1994)). Such adverse teachings abound in the disclosure of Sampson, making any finding of obviousness of the claimed subgenus again improper. For instance, in defining the possible second ethylenically unsaturated monomers of the Sampson invention, Sampson states that "[e]xamples of useful monomers having this part formula are styrene, vinyl toluene, methyl methacrylate, vinyl acetate and butyl methacrylate" (Sampson at 2:36-39), none of

which fall within the claimed subgenus of a cycloaliphatic ester of an olefinically unsaturated carboxylic acid. Similarly, in all 24 of the Sampson Examples, not a single compound falling within the claimed subgenus is disclosed. Thus, Sampson not only fails to teach or suggest the claimed subgenus, but actually teaches that preferred species are not cycloaliphatic esters of an olefinically unsaturated carboxylic acids, which therefore “weigh[s] against selecting the claimed species or subgenus and thus against a determination of obviousness.” As such, a finding of obviousness of the claimed subgenus in view of Sampson would be improper.

In addition to its failure to disclose the Claim 1 limitation regarding component b), Sampson fails to teach the limitation of Claim 1 requiring the (meth)acrylic copolymer to be “free of epoxy-functional free radically copolymerizable olefinically saturated monomers,” and therefore again fails to make this claim obvious. As discussed above, “[t]o establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art” (MPEP § 2143.03, citing *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974)). Here, Sampson is completely silent on the issue of epoxy-functional monomers. As such, Sampson not only fails to teach this claim limitation, but also fails to contain even the slightest suggestion that epoxy functional monomers should be avoided. Thus, Sampson again fails to make obvious the present invention.

Further, because of Sampson’s silence on epoxy-functional monomers, Sampson also fails to teach component c) of Claim 1, which recites “at least one additional free-radically copolymerizable olefinically unsaturated monomer which is different from component a) and b).” Since Claim 1 limits the (meth)acrylic copolymer to those containing no epoxy-functional monomers, it also limits all components of the copolymer, including component c), to non-epoxy-functional monomers. In contrast, Sampson contains no such limitation on the functionality of the monomers useful therein, and therefore fails to teach component c) of the present invention, as well. Thus, Sampson again fails to teach all limitations of Claim 1 and thereby fails to make this claim obvious.

For all the above reasons, Appellants submit that Claim 1 should be deemed nonobvious in view of Sampson. As Claims 2-6 and 8 are dependent upon, and

narrower than Claim 1, Appellants assert that all of Claims 1-6 and 8 should be held to be nonobvious in view of this reference. Similarly, as independent Claims 9-11 and their dependent claims (Claims 12-13) recite a process which employs the nonobvious coating composition of Claim 1, Appellants submit that these claims should also be deemed nonobvious over Sampson.

b. Claim 2

In addition, even if Claim 1 were deemed obvious over Sampson, Sampson also fails to teach, suggest, or otherwise make obvious the additional limitation of Claim 2, thereby making Claim 2 nonobvious in view of this reference. Claim 2 of the present application requires the hydroxy-functional (meth)acrylic copolymer A) to comprise "30-60 wt-% of component a), 15-40 wt-% of component b), 10-40 wt-% of component c) and 18-40 wt-% of component d), the proportions by weight of components a) to d) totaling 100 wt-%." Such a limitation is nowhere taught in the disclosure of Sampson. Further, as the Examples of Sampson only disclose three-component (meth)acrylic copolymer compounds, such a specific combination of four distinct components is not even remotely suggested by this reference. Again, since a finding of obviousness requires that "all the claim limitations must be taught or suggested by the prior art" (MPEP § 2143.03, citing *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974)), Claim 2 should be deemed nonobvious in view of this reference. Moreover, as there are a seemingly infinite number of possible combinations of these components which could be employed to arrive at a coating composition, there is not a "finite number of identified, predictable solutions" present here. Put another way, given the large number of possible combinations of components which could be employed, there would be no reasonable expectation of success in employing this specific combination of components. As such, the combination of limitations found in Claim 2 would not have even been obvious to try. Given all of this, Claim 2 should be held to be nonobvious over Sampson even if the claim from which it depends, Claim 1, is deemed obvious.

2. Claim 6 is Nonobvious in View of Sampson in Further View of Thomas

As discussed above, in rejecting Claim 6 as obvious in view of Sampson and in further view of Thomas, Examiner asserts that Sampson discloses all limitations of Claim 1, while the additional limitation of Claim 6, which specifically lists compounds from which component b) is to be selected, is taught by Thomas. Thus, Examiner asserts that it would have been obvious to one skilled in the art to employ the compounds of Thomas in the invention of Sampson to arrive at the invention of present Claim 6. As an initial matter, for the reasons set forth above, Appellants disagree with Examiner's position that Sampson makes obvious Claim 1, and therefore Appellants assert that Claim 6, which depends upon and is narrower than Claim 1, is also nonobvious. In addition, even if Claim 1 were found to be obvious, Appellants do not agree with Examiner's assertion that Claim 6 is made obvious by a combination of Sampson and Thomas because, given the adverse teachings of Thomas and Sampson, one skilled in the art would not be motivated to combine their teachings, but rather would be discouraged from doing so. In addition, the present invention produces unexpected and advantageous results over compositions of the prior art, which further demonstrates the nonobviousness of these compositions.

Using Examiner's interpretation of the cited references, Sampson teaches the copolymerization of "two or more ethylenically unsaturated monomers at least one of which contains an [sic] hydroxyl group" (Sampson at 1:13-15) followed by reaction of this copolymer with a lactone compound (Sampson at 1:55-56). Thus, Sampson teaches a process wherein the lactone compound need not be separately reacted with a (meth)acrylate compound prior to inclusion of that (meth)acrylate compound in the polymer. In contrast, Thomas, which has a filing date 26 years later than that of Sampson, teaches a more complex process involving first reacting the lactone compound with a (meth)acrylate compound, then reacting that lactone-modified (meth)acrylate compound with the other monomers to form the polymer (5:16-21). Given that Thomas came later than Sampson, and therefore was aware of the teachings of the simpler method of lactone-modification employed by Sampson, Thomas impliedly teaches that lactone modification of the (meth)acrylate copolymer is not useful in that invention. As such, one skilled in the art would not be motivated

to combine Thomas's teaching of the additional limitation of Claim 6 with Sampson's disclosure of the modification/polymerization process to arrive at the present invention, thus making Claim 6 nonobvious in view of these references.

Moreover, the Examples of the present application demonstrate that the modification/polymerization scheme employed in Thomas is inferior to that claimed in the present application, demonstrating nonobviousness of the present invention through unexpected advantageous results. "The combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results" (*KSR Int'l v. Teleflex Inc.*, 127 S.Ct. 1727, 1739, 82 USPQ2d 1385, 1395 (2007)). On the other hand, "[t]he fact that the elements work[] together in an unexpected and fruitful manner support[s] the conclusion that [an invention's] design [is] not obvious to those skilled in the art" (*Id.* at S. Ct. 1740, USPQ2d 1396 (reviewing *United States v. Adams*, 383 U.S. 39, 40, 148 USPQ 179, 180 (1966))). Said another way, proof of unexpected improvement is persuasive rebuttal of a *prima facie* case of obviousness (*In re Murch*, 464 F.2d 1051, 1054, 175 USPQ 89, 92 (CCPA 1972)). With this in mind, Example 1 of the present application discloses the preparation of a coating by the claimed method, while Comparative Example 6 discloses preparation of a coating using nearly identical components, but by a method synonymous to that disclosed in Thomas. As the Table on page 20 of the present application demonstrates, the coating produced by the presently claimed method is superior with regard to drying time, hardness, and scratch resistance to the coating produced by the method of Thomas. These superior results achieved by the presently claimed invention demonstrate "that the elements [of the present invention] work[] together in an unexpected and fruitful manner," which in turn further demonstrates the nonobviousness of the present invention. For all these reasons, Appellants assert that Claim 6 should be deemed nonobvious in view of Sampson in combination with Thomas.

VIII. CONCLUSION

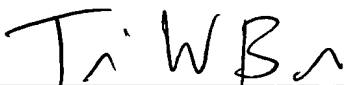
For the reasons set forth above, the Board is respectfully requested to reverse the final rejection of pending Claims 1-13 and indicate allowability of all claims.

Please charge said fee to Deposit Account No. 04-1298 (E. I. du Pont de Nemours and Co.).

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CLAIMS APPENDIX

1. A coating composition comprising

A) at least one hydroxy-functional (meth)acrylic copolymer having an OH value from 160 to 200 mg KOH/g and a weight average molecular weight Mw from 2,500 to 30,000 and

B) at least one polyisocyanate cross-linking agent;

wherein the hydroxy-functional (meth)acrylic copolymer A) is obtained by

AI) free-radically copolymerizing a monomer mixture comprising

a) at least one hydroxy functional free-radically copolymerizable olefinically unsaturated monomer,

b) at least one cycloaliphatic ester of a free-radically copolymerizable olefinically unsaturated carboxylic acid and

c) at least one additional free-radically copolymerizable olefinically unsaturated monomer which is different from component a) and b) and

AII) reacting at least part of the hydroxyl groups of the hydroxy-functional (meth)acrylic copolymer obtained in step AI) with

d) at least one lactone compound;

wherein the hydroxy-functional (meth)acrylic copolymer obtained in step AI) has a glass transition temperature Tg of at least 50°C and wherein said copolymer is free of epoxy-functional free-radically copolymerizable olefinically unsaturated monomers.

2. The coating composition according to claim 1, wherein the hydroxy-functional (meth)acrylic copolymer A) comprises 30-60 wt-% of component a), 15-40 wt-% of

component b), 10-40 wt-% of component c) and 18-40 wt-% of component d), the proportions by weight of components a) to d) totaling 100 wt-%.

3. The coating compositions according to claim 1, wherein the hydroxy-functional (meth)acrylic copolymer A) has an OH value from 170-190 mg KOH/g, a weight average molecular weight Mw from 2,500 to 20,000.

4. The coating compositions according to claim 1, wherein the hydroxy-functional (meth)acrylic copolymer obtained in step A1) has an OH value from 170-280 mg KOH/g, a weight average molecular weight Mw from 2,000 to 20,000 and a glass transition temperature Tg from 60°C to 100°C.

5. The coating compositions according to claim 1, in which component a) comprises at least one hydroxyalkyl ester of (meth)acrylic acid.

6. The coating compositions according to claim 1, in which component b) comprises at least one compound selected from the group consisting of cyclohexyl (meth)acrylate, trimethylcyclohexyl (meth)acrylate, 4-tert. butylcyclohexyl (meth)acrylate, and isobornyl (meth)acrylate.

7. The coating compositions according to claim 1, in which component c) comprises at least one vinyl aromatic hydrocarbon.

8. The coating composition according to claim 1, in which component d) is epsilon-caprolactone.
9. A process which comprises applying a multi-layer coating on a substrate using a coating composition according to claim 1 and curing said coating.
10. A process for multi-layer coating of substrates which comprises applying a top coat layer to a substrate pre-coated with one or more coating layers, wherein the top coat layer comprises a color-and/or special effect-imparting base coat coating compound and a clear coat coating compound, and wherein the clear coating layer comprises the coating composition according to claim 1.
11. A process for multi-layer coating of substrates which comprises applying a top coat layer to a substrate pre-coated with one or more coating layers, wherein the top coat layer comprises a pigmented one-layer top coat coating compound, and wherein the pigmented one-layer top coat coating layer comprises the coating composition according to claim 1.
12. The process according to claim 10, wherein the substrates are selected from the group consisting of automotive bodies and automotive body parts.
13. The process according to claim 11, wherein the substrates are selected from the group consisting of automotive bodies and automotive body parts.

Serial No. 10/759,945
Docket No. FA1105 US NA

EVIDENCE APPENDIX

None

Serial No. 10/759,945
Docket No. FA1105 US NA

RELATED PROCEEDINGS APPENDIX

None



Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

FEE TRANSMITTAL for FY 2008

Patent fees are subject to annual revision.

☐ Applicant Claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT (\$) 510.00

Complete if Known

Application Number 10/759,945
Filing Date January 16, 2004
First Named Inventor Jos Huybrechts
Examiner Name Ives J. Wu
Group / Art Unit 1797
Attorney Docket No. FA1105 US NA

METHOD OF PAYMENT (check all that apply)

☐ Check ☐ Credit card ☐ Money Order ☐ Other ☐ None

☒ Deposit Account:

Deposit
Account
Number

04-1928

Deposit
Account
Name

E.I. du Pont de Nemours and Company

The Commissioner is authorized to: (check all that apply)

☒ Charge fee(s) indicated below ☒ Credit any overpayments
☒ Charge any additional fee(s) during the pendency of this application
☐ Charge fee(s) indicated below, except for the filing fee to the above-identified deposit account

FEE CALCULATION

1. BASIC FILING FEE

Large Entity		Small Entity		Fee Description	Fee Paid
Fee Code	Fee (\$)	Fee Code	Fee (\$)		
1011	1090	2011	545	Utility filing fee	
1002	550	2002	225	Design filing fee	
1013	750	2013	375	Plant filing fee	
1004	1090	2004	545	Reissue filing fee	
1005	200	2005	100	Provisional filing fee	
SUBTOTAL (1)					(\$)

2. EXTRA CLAIM FEES

Total Claims -20 = Extra Claims X Fee from below = Fee Paid

Independent Claims -3 = X 200 =

Multiple Dependent ☐ X 360 =

Large Entity		Small Entity		Fee Description	Fee Paid
Fee Code	Fee (\$)	Fee Code	Fee (\$)		
1202	50	2202	25	Claims in excess of 20	
1201	200	2201	100	Independent claims in excess of 3	
1203	360	2203	180	Multiple dependent claim, if not paid	
1204	200	2204	100	** Reissue independent claims over original patent	
1205	50	2205	25	** Reissue claims in excess of 20 and over original patent	
SUBTOTAL (2)					(\$)

**or number previously paid, if greater; For Reissues, see above

FEE CALCULATION (continued)

3. ADDITIONAL FEES 1401

Large Entity		Small Entity		Fee Description	Fee Paid
Fee Code	Fee (\$)	Fee Code	Fee (\$)		
1051	130	2051	65	Surcharge - late filing fee or oath	
1052	50	2052	25	Surcharge - late provisional filing fee or cover sheet.	
1053	130	1053	130	Non-English specification	
1812	2,520	1812	2,520	Request for ex parte reexamination	
1804	920*	1804	920*	Requesting publication of SIR prior to Examiner action	
1805	1,840*	1805	1,840*	Requesting publication of SIR after Examiner action	
1251	120	2251	60	Extension for reply within first month	
1252	450	2252	225	Extension for reply within second month	
1253	1020	2253	510	Extension for reply within third month	
1254	1,590	2254	795	Extension for reply within fourth month	
1255	2,160	2255	1,080	Extension for reply within fifth month	
1401	510	2401	250	Notice of Appeal	
1402	510	2402	250	Filing a brief in support of an appeal	510.00
1403	1,000	2403	500	Request for oral hearing	
1451	1,510	1451	1,510	Petition to institute a public use proceeding	
1452	500	2452	250	Petition to revive - unavoidable	
1453	1,500	2453	750	Petition to revive - unintentional	
1501	1,400	2501	700	Utility issue fee (or reissue)	
1502	800	2502	400	Design issue fee	
1503	1,100	2503	550	Plant issue fee	
1464	130	1464	130	Petitions requiring the petition fee set forth in 37 CFR 1.17(h) (Group III)	
1807	50	1807	50	Processing fee for provisional applications 37 CFR 1.17(q)	
1806	180	1806	180	Submission of Information Disclosure Stmt	
8021	40	8021	40	Recording each patent assignment per property (times number of properties)	
1809	790	2809	395	Filing a submission after final rejection (37 CFR § 1.129(a))	
1810	790	2810	395	For each additional invention to be examined (37 CFR § 1.129(b))	
1801	790	2801	395	Request for Continued Examination (RCE)	
1802	900	1802	900	Request for expedited examination of a design application	

Other fee (specify) _____

*Reduced by Basic Filing Fee Paid

SUBTOTAL (3) (\$) 510.00

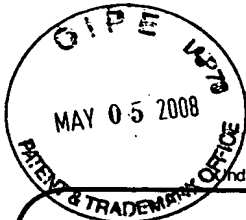
SUBMITTED BY

Complete (if applicable)

Name (Print/Type) Rakesh H. Mehta Registration No. Attorney/Agent 50,224 Telephone 302-984-6089
Signature *Rakesh H. Mehta* Date April 30, 2008

This collection of information is required by 37 CFR 1.136. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 30 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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**TRANSMITTAL
FORM**

(to be used for all correspondence after initial filing)

Application Number	10/759,945
Filing Date	January 16, 2004
First Named Inventor	Jos Huybrechts
Group Art Unit	1797
Examiner Name	Ives J. Wu
Attorney Docket Number	FA1105 US NA

Total Number of Pages in This Submission

ENCLOSURES (check all that apply)

<input checked="" type="checkbox"/> Fee Transmittal Form <input type="checkbox"/> Fee Attached <input type="checkbox"/> Amendment / Response <input type="checkbox"/> After Final <input type="checkbox"/> Affidavits/declaration(s) <input type="checkbox"/> Extension of Time Request <input type="checkbox"/> Express Abandonment Request <input type="checkbox"/> Information Disclosure Statement <input type="checkbox"/> Certified Copy of Priority Document(s) <input type="checkbox"/> Response to Missing Parts under 37 CFR 1.52 or 1.53	<input type="checkbox"/> Drawing(s) <input type="checkbox"/> Licensing-related Papers <input type="checkbox"/> Petition <input type="checkbox"/> Petition to Convert to a Provisional Application <input type="checkbox"/> Power of Attorney, Revocation Change of Correspondence Address <input type="checkbox"/> Terminal Disclaimer <input type="checkbox"/> Request for Refund <input type="checkbox"/> CD, Number of CD(s) _____ <input type="checkbox"/> Landscape Table on CD	<input type="checkbox"/> After Allowance Communication to TC <input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences <input checked="" type="checkbox"/> Appeal Communication to TC (Appeal Brief) <input type="checkbox"/> Proprietary Information <input type="checkbox"/> Status Letter <input checked="" type="checkbox"/> Other Enclosure(s) (please identify below): <ul style="list-style-type: none">• Certificate of Mailing• Receipt Card
Remarks		

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm Name	Potter Anderson & Corroon LLP
Signature	
Printed Name	Rakesh H. Mehta
Date	April 30, 2008
Reg. No.	50,224

CERTIFICATE OF TRANSMISSION/MAILING

I hereby certify that this correspondence is being sent via first class mail to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Mail Stop Appeal Brief, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below:			
Signature	Ellen M. Godfrey		
Typed or printed name		Date	April 30, 2008

This collection of information is required by 37 CFR 1.5. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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Signature

Ellen M. Godfrey

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Application Number: 10/759,945
Filing Date: January 16, 2004
First Named Inventor: Jos Huybrechts
Title: Two-Component Coating Compositions
Attorney Docket No: FA1105 US NA

- Transmittal Form
- Fee Transmittal
- Appeal Brief
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